

(19) World Intellectual Property Organization
International Bureau(43) International Publication Date
29 September 2005 (29.09.2005)

PCT

(10) International Publication Number
WO 2005/089128 A3(51) International Patent Classification:
G06F 19/00 (2006.01)(21) International Application Number:
PCT/US2005/007022

(22) International Filing Date: 3 March 2005 (03.03.2005)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/550,023 3 March 2004 (03.03.2004) US(71) Applicant (for all designated States except US): ISIS
PHARMACEUTICALS, INC. [US/US]; 1896 Ruther-
ford Road, Carlsbad, CA 92008 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): SAMPATH, Ran-
garnjan [US/US]; 12223 Mannix Road, San Diego, CA
92129 (US). SAMANT, Vivek [US/US]; 2117 Brigantine
Court, Encinitas, CA 92024 (US). MASSIRE, Christian
[FR/US]; 7498 Alhiva Place, Carlsbad, CA 92009 (US).
LEVENE, Harold, B. [US/US]; 2946 Renault Street, San
Diego, CA 92122 (US). ECKER, David, J. [US/US]; 1041
Saxony Road, Encinitas, CA 92024 (US). McNEIL, John
[US/US]; 6389 Castejon Drive, La Jolla, CA 92037 (US).(74) Agent: CASIMIR, David A.; MEDLEN & CARROL,
LLP, 101 Howardf Street, Suite 350, San Francisco, CA
94105 (US).(81) Designated States (unless otherwise indicated, for every
kind of national protection available): AE, AG, AL, AM,
AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN,
CO, CR, CU, CZ, DE, DK, DM, DO, EC, EE, EG, ES, FI,
GB, GD, GE, GH, GM, HN, HU, ID, IL, IN, IS, JP, KE,
KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD,
MG, MK, MN, MW, MX, NZ, NA, NI, NO, NZ, OM, PG,
PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY,
TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU,
ZA, ZM, ZW.(84) Designated States (unless otherwise indicated, for every
kind of regional protection available): ARIPO (BW, GH,
GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM,
ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM),
European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI,
FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO,
SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN,
GQ, GW, ML, MR, NE, SN, TD, TG).

Published:

— with international search report

(88) Date of publication of the international search report:
11 January 2007For two-letter codes and other abbreviations, refer to the "Guid-
ance Notes on Codes and Abbreviations" appearing at the begin-
ning of each regular issue of the PCT Gazette.

(54) Title: RAPID IDENTIFICATION OF MICROBIAL AGENTS

(57) Abstract: The method described herein relate generally the identification of bioagents on the basis of base composition sig-
natures for bioagent-identifying amplicons. Specifically, methods of the present invention are directed to the application of pattern
recognition models, particularly probability pattern classifiers, to the identification of both known and previously unrecognized bio-
agents. In certain embodiments, the pattern classifiers relate to probability cloud patterns, such as mutational probability patterns. In
other embodiments the pattern classifiers relate to polytype pattern models.

WO 2005/089128 A3

INTERNATIONAL SEARCH REPORT

International application No.

PCT/US05/07022

A. CLASSIFICATION OF SUBJECT MATTER

IPC: G06F 19/00(2006.01)

USPC: 702/19

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 702/19

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
DIALOG: BIOSCI databases

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 6,813,615 B1 (COLOASANTI et al.) 2 November 2004 (02.11.2004), col. 16, lines 25-67, col. 17, col. 18, lines 1-21, Fig. 3, col. 8, lines 23-35, col. 15, lines 65-67, col. 16, lines 1-14 and lines 57-67, and col. 20, lines 4-10 and lines 41-52.	1-4
X, Y	US 4,075,475 (RISBY et al.) 21 February 1978 (21.02.1978), col. 4, lines 5-67, col. 5, lines 1-58, col. 6, lines 1-38, col. 13, lines 10-67, and col. 14, lines 1-2.	1-3 and 5-8
Y	US 6,994,962 B1 (THILLY) 7 February 2000 (07.02.2000), col. 5, lines 6-67, col. 6, lines 1-38, col. 13, lines 11-67, and col. 14, lines 1-31.	9-11, 14, and 16-19

☐ Further documents are listed in the continuation of Box C.☐ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" documents referring to an oral disclosure, use, exhibition or other means

"P" documents published prior to the international filing date but later than the priority date claimed

"T"

later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X"

document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y"

document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&"

document member of the same patent family

Date of the actual completion of the international search

12 June 2006 (12.06.2006)

Date of mailing of the international search report

20 OCT 2006

Name and mailing address of the ISA/US

Mail Stop PCT, Attn: ISA/US
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
Facsimile No. (571) 273-3201

Authorized officer

Jason Sims

Telephone No.: 571.272.7540

J. Roberts for